WEST Search History

DATE: Wednesday, June 25, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L9	argj near5 coli	1	L9
L8	L7 and l6	3	L8
L7	arga with gene	17	L7
L6	acetylglutam$ adj3 synthase	7	L6
L5	L1	1	L5
L4	L3	2	L4
DB=USPT; PLUR=YES; OP=ADJ			
L3	arga with gene	2	L3
L2	arga with gene$	14	L2
L1	acetylglutam$ adj3 synthase	1	L1

END OF SEARCH HISTORY

WEST

Generate Collection

L8: Entry 2 of 3 File: PGPB May 16, 2002

PGPUB-DOCUMENT-NUMBER: 20020058315
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020058315 A1

TITLE: Bacterium having ability to produce L-glutamic acid, L-proline or L-arginine and method for producing L-glutamic acid, L-proline or L-arginine

PUBLICATION-DATE: May 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lunts, Maria Grigorievna	Moscow		RU	
Fomina, Svetlana Aleksandrovna	Moscow		RU	
Leonova, Tatyana Viktorovna	Moscow		RU	
Gusyatiner, Mikhail Markovich	Moscow		RU	

US-CL-CURRENT: 435/107; 435/252.33

WEST

End of Result Set

Generate Collection | Print

L1: Entry 1 of 1 File: USPT Apr 22, 2003

DOCUMENT-IDENTIFIER: US 6551795 B1
TITLE: Nucleic acid and amino acid sequences relating to pseudomonas aeruginosa for diagnostics and therapeutics

Detailed Description Paragraph Table (228):
aeruginosa) 26736533_f1_57 7534 24105 2451 816 341 -27 Escherichia coli P77338 (de:aefa protein) 2447637_f1_58 7535 24106 972 323 243 -20 Bacillus P39587 (de:hypothetical 44.4 kd protein in subtilis/Bacillus epr-galk intergenic region) globigii 25995431_f1_63 7536 24107 1254 417 16033341_f1_66 7537 24108 471 156 17066668_f1_67 7538 24109 2718 905 113 -4 Aspergillus Contig1423 GTC ORF with score 289 to: fumigatus (ai:7000792986) (or:Pseudomonas aeruginosa) 521008_f1_69 7539 24110 954 317 355 -32 Pseudomonas AF087482 (de:pseudomonas aeruginosa clcc and aeruginosa ohbh genes, lys-r type regulatory protein (clcr), chlorocatechol-1,2-dioxygenase (clca), chloromuconate cycloisomerase (clcb), dienelactone hydrolase (clcd), malcylacetate reductase (clce) transposas . . . 32714691_f1_72 7540 24111 861 286 121 -4 Nephila clavipes A44112 3255417_f1_73 7541 24112 477 158 100 -6 Klebsiella Contig470A GTC ORF with score 100 to: pneumoniae (ai:7000782040) (or:Pseudomonas aeruginosa) 31345217_f1_80 7542 24113 552 183 107 -6 Klebsiella Contig559A GTC ORF with score 131 to: pneumoniae (ai:7000707509) (or:Mytilus edulis) (sr:blue mussel) (de:mytilus edulis precollagen d (precol-d) mrna, complete cds.) 268 6530_f1_81 7543 24114 2724 907 128 -4 Salmonella U43350 (sr:salmonella enterica strain=s2978) entericia (de:salmonella enterica isocitrate lyasc (acea) gene, partial cds, isocitrate dehydrogenase kinase/phosphatase (acek) gene, complete cds.) 21881451_f1_86 7544 24115 591 196 302 -28 Rickettsia AJ235269 Rickettsia prowazekii strain Madrid E, prowazekii complete genome. 12130325_f1_93 7545 24116 1008 335 320 -29 Enterobacter CONTIG223 GTC ORF with score 320 to: cloacae (ai:7000782060) (or:Pseudomonas aeruginosa) 21658316_f1_98 7546 24117 1251 416 1421 -145 Chromatium AF034104 (de:chromatium vinosum pet operon fe-s vinosum protein (peta), cytochrome b(petb), and cytochrome c1 (petc) genes, complete cds.) 13128756_f1_99 7547 24118 837 278 555 -53 Escherichia coli P05838 (de:stringent starvation protein a) 29926568_f1_100 7548 24119 666 221 183 -14 Enterobacter CONTIG96 GTC ORF with score 509 to: cloacae (ai:7501735549) (or:Klebsiella pneumoniae) 26073586_f1_102 7549 24120 1740 579 845 -84 Escherichia coli P45528 (de:hypothetical 31.3 kd protein in agai-mtr intergenic region (1286)) 35258292_f1_104 7550 24121 1011 336 849 -85 Escherichia coli P18595 (de:hypothetical 34.9 kd protein in frur-ftsl intergenic region (orfb)) 35754131_f1_109 7551 24122 1335 444 243 -20 Pseudomonas Q59650 (ec:6.3.2.13) (de:(ec 6.3.2.13) (udp-n- aeruginosa acetylmuramyl-tripeptide synthetase) (fragment)) 14938330_f1_111 7552 24123 360 119 98 -5 Aspergillus Contig8078 GTC ORF with score 219 to: (ai:175260) fumigatus (or:Volvox carteri) 12938505_f1_114 7553 24124 1173 390 728 -72 Escherichia coli P17443 (ec:2.4.1.--) (de:(ec 2.4.1.--)) 31899066_f1_116 7554 24125 1653 550 782 -78 Escherichia coli P07862 (ec:6.3.2.4) (de:synthetase)) 35353408_f1_117 7555 24126 867 288 314 -28 Escherichia coli P06136 (de:cell division protein ftsq) 15057878_f1_118 7556 24127 1089 362 1249 -127 Pseudomonas AF038380 (de:pseudomonas putida cell division putida protein ftsa gene, complete cds.) (nt:cell division protein; similar to pseudomonas) 34649187_f1_120 7557 24128 1203 400 1949 -201 Pseudomonas P47204 (de:cell division protein ftsz) aeruginosa 4478403_f1_125 7558 24129 927 308 292 -27 Rickettsia AJ235269 Rickettsia prowazekii strain Madrid E, prowazekii complete genome. 16538252_f1_126 7559 24130 1803 600 112 -3 Beta vulgaris S51939 (sr:, beet)(ec:3.2.1.14) 31345436_f1_128 7560 24131 1905 634 1016 -102 Neisseria P38434 (ec:2.3.1.35:2.3.1.1) (de:acetyltransferase, gonorrhoeae (n-acetylglutamate synthase) (ags)) 4978812_f1_129 7561 24132 723 240 127 -6

Caenorhabditis Z66560 (de:caenorhabditis elegans cosmid d1053, elegans complete sequence.) (nt:similar to glutathione s-transferase) 10006890_f1_137 7562 24133 2241 746 110 -4 Aspergillus Contig845S GTC ORF with score 110 to: fumigatus (ai:7000782104) (or:Pseudomonas aeruginosa) 10972707_f1_138 7563 24134 1008 335 4322250_f1_139 7564 24135 1011 336 25417281_f1_155 7565 24136 741 246 779 -77 Pseudomonas Y09798 (de:p.fluorescens colr, cols and oril22 fluorescens genes.) (nt:function unknown) 34277308_f1_170 7566 24137 426 141 102 -6 Klebsiella Contig438A GTC ORF with score 115 to: pneumoniae (ai:7000772235) (or:Pseudomonas aeruginosa) 10058341_f1_174 7567 24 138 1224 407 114 -6 Vibrio cholorae AJ231113 (de:vibrio cholorae z54f gene.) 24738342_f1_175 7568 24139 1494 497 10987705_f1_176 7569 24140 996 331 1277305_f1_177 7570 24141 2001 666 254 -21 Enterobacter CONTIG463 GTC ORF with score 1613 to: (ai:7501765603) (or:Klebsiella pneumoniae) 36020430_f1_178 7571 24142 1176 391 407 -38 Klebsiella Contig396A GTC ORF with score 407 to: pneumoniae (ai:7000782145) (or:Pseudomonas aeruginosa) 1072705_f1_179 7572 24143 474 157 217 -18 Escherichia coli P24194 (de:chromosome initiation inhibitor (oric replication inhibitor)) 31895887_f1_181 7573 24144 1449 482

NiceZyme View of ENZYME: EC 2.3.1.1

Official Name

Amino-acid N-acetyltransferase.

Alternative Name(s)

None.

Reaction catalysed

```
    Acetyl-CoA
 +  L-glutamate
<=>
    CoA.
 +  N-acetyl-L-glutamate
```

Comments

- Also acts with L-aspartate and, more slowly, with some other amino acids.

Cross-references

Biochemical Pathways; map number(s)	G7, H7
BRENDA	2.3.1.1
EMP/PUMA	2.3.1.1
WIT	2.3.1.1
KYOTO UNIVERSITY LIGAND CHEMICAL DATABASE	2.3.1.1
IUBMB Enzyme Nomenclature	2.3.1.1
MEDLINE	Find literature relating to 2.3.1.1
Swiss-Prot	O66143, ARGA_BUCAI; P59099, ARGA_BUCAP; P08205, ARGA_ECOLI; Q9JW21, ARGA_NEIMA; Q9JXU9, ARGA_NEIMB; Q9CMJ6, ARGA_PASMU; P22567, ARGA_PSEAE; P32042, ARGA_PSEPK; Q8XZZ5, ARGA_RALSO; Q8Z421, ARGA_SALTI; Q8ZMB8, ARGA_SALTY; P59292, ARGA_SHEON; P59293, ARGA_SHIFL; Q9KPQ0, ARGA_VIBCH; P59294, ARGA_VIBVU; Q8ZH86, ARGA_YERPE; Q8UA56, ARGJ_AGRT5; O67100, ARGJ_AQUAE; O29118, ARGJ_ARCFU; Q9ZJ14, ARGJ_BACAM; Q9K8V3, ARGJ_BACHD; Q07908, ARGJ_BACST; P36843, ARGJ_BACSU; Q8G5F0, ARGJ_BIFLO; P59610, ARGJ_BRAJA; Q8YJF9, ARGJ_BRUME; Q8FYE2, ARGJ_BRUSU; Q9A3Y4, ARGJ_CAUCR; P59611, ARGJ_CHLTE; Q9RTQ2, ARGJ_DEIRA; Q93EJ3, ARGJ_HELHP; Q9CHD4, ARGJ_LACLA; O08319, ARGJ_LACPL; Q8EYV8, ARGJ_LEPIN; Q92BB8, ARGJ_LISIN; Q8Y6U2, ARGJ_LISMO; Q8TK55, ARGJ_METAC; Q8TX15, ARGJ_METKA; Q8PZL8, ARGJ_METMA; O26284, ARGJ_METTH; Q9CC14, ARGJ_MYCLE; P94988, ARGJ_MYCTU; P38434, ARGJ_NEIGO; Q9JRJ2, ARGJ_NEIMA; Q8CUN1, ARGJ_OCEIH; Q8XVJ7, ARGJ_RALSO; Q98G72, ARGJ_RHILO; Q92MJ1, ARGJ_RHIME; P96426, ARGJ_RHOFA; Q99X38, ARGJ_STAAM; Q8NYM7, ARGJ_STAAW; Q8CSF9, ARGJ_STAEP; Q9LCS7, ARGJ_STRCL; Q8DV45, ARGJ_STRMU; Q8DHN4, ARGJ_SYNEL; P74122, ARGJ_SYNY3; Q9X2A3, ARGJ_THEMA;

	Q9Z4S1, ARGJ_THENE; Q8R7B9, ARGJ_THETN; Q04728, ARGJ_YEAST; Q9K3D6, ARHA_MORS3; Q9K3D7, ARHA_MORS4; Q8YVA8, ARJ1_ANASP; Q97GH6, ARJ1_CLOAB; Q8YPF9, ARJ2_ANASP; Q97ET6, ARJ2_CLOAB;

View entry in original ENZYME format

If you would like to retrieve all the Swiss-Prot entries referenced in this entry, click here.

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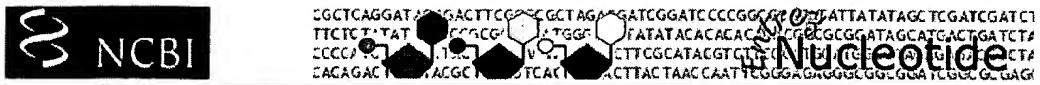

☐1: Y00492. E. coli argA gene...[gi:40952] Links

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LOCUS       ECARGA                  1575 bp    DNA     linear   BCT 10-FEB-1999
DEFINITION  E. coli argA gene for N-acetylglutamate synthase (EC 2.3.1.1).
ACCESSION   Y00492
VERSION     Y00492.1  GI:40952
KEYWORDS    argA gene; N-acetylglutamate synthase.
SOURCE      Escherichia coli
  ORGANISM  Escherichia coli
            Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
            Enterobacteriaceae; Escherichia.
REFERENCE   1  (bases 1 to 1575)
  AUTHORS   Brown,K., Finch,P.W., Hickson,I.D. and Emmerson,P.T.
  TITLE     Complete nucleotide sequence of the Escherichia coli argA gene
  JOURNAL   Nucleic Acids Res. 15 (24), 10586 (1987)
  MEDLINE   88096590
   PUBMED   3320971
REFERENCE   2  (bases 1 to 1575)
  AUTHORS   Emmerson,P.T.
  TITLE     Direct Submission
  JOURNAL   Submitted (06-JAN-1988) Emmerson P.T., University of Newcastle upon
            Tyne, Dept. of Biochemistry, Medical School, NE2 4HH, UK
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                     /db_xref="taxon:562"
                     /map="61 min"
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                     /codon_start=1
                     /transl_table=11
                     /protein_id="CAA68547.1"
                     /db_xref="GI:581038"
                     /db_xref="SWISS-PROT:P08205"
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                     TLQLDITARLSMSLNNTPLQGAHINVVSGNFIIAQPLGVDDGVDYCHSGRIRRIDEDA
                     IHRQLDSGAIVLMGPVAVSVTGESFNLTSEEIATQLAIKLKAEKMIGFCSSQGVTNDD
                     GDIVSELFPNEAQARVEAQEEKGDYNSGTVRFLRGAVKACRSGVRRCHLISYQEDGAL
                     LQELFSRDGIGTQIVMESAEQIRRATINDIGGILELIRPLEQQGILVRRSREQLEMEI
                     DKFTIIQRDNTTIACAALYPFPEEKIGEMACVAVHPDYRSSSRGEVLLERIAAQAKQS
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BASE COUNT      416 a    373 c    416 g    370 t
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      121 tctttttata ttcacggcat tactgataaa aaagtcgctc tcgcataaaa tttacacttg
      181 caccctgcga aaaaacagaa taaaaataca ctaatttcga ataatcatgc aaagaggtgt
      241 gccgtggtaa aggaacgtaa aaccgagttg gtcgagggat tccgccattc ggttccctat
      301 atcaataccc accggggaaa aacgtttgtc atcatgctcg gcggtgaagc cattgagcat
      361 gagaatttct ccagtatcgt taatgatatc gggttgttgc acagcctcgg catccgtctg
      421 gtggtggtct atggcgcacg tccgcagatc gacgcaaatc tggctgcgca tcaccacgaa
      481 ccgctgtatc acaagaatat acgtgtgacc gacgccaaaa cactggaact ggtgaagcag
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1561 gcggatttag ggtaa
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 NEWS 14  Nov 25   More calculated properties added to REGISTRY
 NEWS 15  Dec 04   CSA files on STN
 NEWS 16  Dec 17   PCTFULL now covers WP/PCT Applications from 1978 to date
 NEWS 17  Dec 17   TOXCENTER enhanced with additional content
 NEWS 18  Dec 17   Adis Clinical Trials Insight now available on STN
 NEWS 19  Jan 29   Simultaneous left and right truncation added to COMPENDEX,
                   ENERGY, INSPEC
 NEWS 20  Feb 13   CANCERLIT is no longer being updated
 NEWS 21  Feb 24   METADEX enhancements
 NEWS 22  Feb 24   PCTGEN now available on STN
 NEWS 23  Feb 24   TEMA now available on STN
 NEWS 24  Feb 26   NTIS now allows simultaneous left and right truncation
 NEWS 25  Feb 26   PCTFULL now contains images
 NEWS 26  Mar 04   SDI PACKAGE for monthly delivery of multifile SDI results
 NEWS 27  Mar 20   EVENTLINE will be removed from STN
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 NEWS 29  Mar 24   Additional information for trade-named substances without
                   structures available in REGISTRY
 NEWS 30  Apr 11   Display formats in DGENE enhanced
 NEWS 31  Apr 14   MEDLINE Reload
 NEWS 32  Apr 17   Polymer searching in REGISTRY enhanced
 NEWS 33  Jun 13   Indexing from 1947 to 1956 added to records in CA/CAPLUS
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                   WPIDS/WPINDEX/WPIX
 NEWS 35  Apr 28   RDISCLOSURE now available on STN
 NEWS 36  May 05   Pharmacokinetic information and systematic chemical names
                   added to PHAR
 NEWS 37  May 15   MEDLINE file segment of TOXCENTER reloaded
 NEWS 38  May 15   Supporter information for ENCOMPPAT and ENCOMPLIT updated
 NEWS 39  May 16   CHEMREACT will be removed from STN
 NEWS 40  May 19   Simultaneous left and right truncation added to WSCA
 NEWS 41  May 19   RAPRA enhanced with new search field, simultaneous left and
                   right truncation
 NEWS 42  Jun 06   Simultaneous left and right truncation added to CBNB
 NEWS 43  Jun 06   PASCAL enhanced with additional data
 NEWS 44  Jun 20   2003 edition of the FSTA Thesaurus is now available
 NEWS 45  Jun 25   HSDB has been reloaded

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=> s acetylglutam? (3w) (synthase or synthetase)
L1          609 ACETYLGLUTAM? (3W) (SYNTHASE OR SYNTHETASE)

=> s l1 (5a) (gene? or dna or nucle?)
   2 FILES SEARCHED...
   5 FILES SEARCHED...
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   6 FILES SEARCHED...
   9 FILES SEARCHED...
L2          94 L1 (5A) (GENE? OR DNA OR NUCLE?)

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3           29 DUP REM L2 (65 DUPLICATES REMOVED)

=> d 1-10

L3   ANSWER 1 OF 29     MEDLINE                          DUPLICATE 1
AN   2003130016     MEDLINE
DN   22531184   PubMed ID: 12594532
TI   Null mutations in the N-acetylglutamate synthase
     gene associated with acute neonatal disease and hyperammonemia.
AU   Caldovic Ljubica; Morizono Hiroki; Panglao Maria Gracia; Cheng Sabrina F;
     Packman Seymour; Tuchman Mendel
CS   Children's Research Institute, Children's National Medical Center, The
     George Washington University, 111 Michigan Avenue NW, Washington, DC
     20010, USA.
NC   DK47870 (NIDDK)
     HD32652 (NICHD)
     HD40677 (NICHD)
     RR01271 (NCRR)
     RR13297 (NCRR)
SO   HUMAN GENETICS, (2003 Apr) 112 (4) 364-8.
     Journal code: 7613873. ISSN: 0340-6717.
CY   Germany: Germany, Federal Republic of
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200305
ED   Entered STN: 20030320
     Last Updated on STN: 20030517
     Entered Medline: 20030516

L3    ANSWER 2 OF 29  BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN    2002-16737  BIOTECHDS
TI    Microorganism for the production of L-arginine, comprises a recombinant
      DNA gene coding for an enzyme having ornithine acetyltransferase
      activity;
         involving recombinant vector plasmid DNA-mediated ornithine-
         acetyltransferase and expression in Escherichia coli culture medium
         optimization and fermentation
AU    SAKANYAN V; MARC F; HOVSEPYAN A; LECOCQ M
PA    AJINOMOTO CO INC
PI    EP 1201758 2 May 2002
AI    EP 2000-403003 27 Oct 2000
PRAI  EP 2000-403003 27 Oct 2000
DT    Patent
LA    English
OS    WPI: 2002-428567 [46]

L3    ANSWER 3 OF 29  BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN    2002-10205  BIOTECHDS
TI    Novel mutant N-acetylglutamate synthase which desensitizes feedback
      inhibition by L-arginine, useful in biosynthesis of arginine by
      Escherichia coli;
         vector-mediated gene transfer and expression in host cell for strain
         improvement
AU    PTITSYN L R; ALTMAN I B; SMIRNOV S V; ROSTOVA Y G; YAMPOLSKAYA T A;
      LEONOVA T V; GUSYATINER M M
PA    AJINOMOTO CO INC
PI    EP 1170361 9 Jan 2002
AI    EP 2000-114572 28 Jun 2000
PRAI  RU 2001-112869 15 May 2001
DT    Patent
LA    English
OS    WPI: 2002-165893 [22]
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L3 ANSWER 4 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 2003:46777 BIOSIS
DN PREV200300046777
TI N-acetylglutamate synthase deficiency and the treatment of hyperammonemic encephalopathy.
AU Elpeleg, Orly (1); Shaag, Avraham; Ben-Shalom, Efrat; Schmid, Tal; Bachmann, Claude
CS (1) Metabolic Disease Unit, Shaare-Zedek Medical Center, Jerusalem, 91031, Israel: elpeleg@cc.huji.ac.il Israel
SO Annals of Neurology, (December 2002, 2002) Vol. 52, No. 6, pp. 845-849. print.
ISSN: 0364-5134.
DT Article
LA English

L3 ANSWER 5 OF 29 MEDLINE DUPLICATE 4
AN 2002307909 MEDLINE
DN 22045052 PubMed ID: 12049647
TI Identification, cloning and expression of the mouse N-**acetylglutamate synthase gene**.
AU Caldovic Ljubica; Morizono Hiroki; Yu Xiaolin; Thompson Mark; Shi Dashuang; Gallegos Rene; Allewell Norma M; Malamy Michael H; Tuchman Mendel
CS Children's Research Institute, Children's National Medical Center, George Washington University, 111 Michigan Ave NW, Washington, DC 20010, USA.
NC DK47870 (NIDDK)
HD32652 (NICHD)
HD40677 (NICHD)
SO BIOCHEMICAL JOURNAL, (2002 Jun 15) 364 (Pt 3) 825-31.
Journal code: 2984726R. ISSN: 0264-6021.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-AF462069
EM 200208
ED Entered STN: 20020611
Last Updated on STN: 20020831
Entered Medline: 20020815

L3 ANSWER 6 OF 29 MEDLINE DUPLICATE 5
AN 2002697799 MEDLINE
DN 22347014 PubMed ID: 12459178
TI Cloning and expression of the human N-**acetylglutamate synthase gene**.
AU Caldovic Ljubica; Morizono Hiroki; Gracia Panglao Maria; Gallegos Rene; Yu Xiaolin; Shi Dashuang; Malamy Michael H; Allewell Norma M; Tuchman Mendel
CS Children's Research Institute, Children's National Medical Center, The George Washington University, 111 Michigan Ave NW, Washington, DC 20010, USA.
NC DK47870 (NIDDK)
HD 40677 (NICHD)
HD32652 (NICHD)
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (2002 Dec 13) 299 (4) 581-6.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-AY158070
EM 200301
ED Entered STN: 20021217
Last Updated on STN: 20030125
Entered Medline: 20030124

L3 ANSWER 7 OF 29 SCISEARCH COPYRIGHT 2003 THOMSON ISI

AN 2002:161902 SCISEARCH
GA The Genuine Article (R) Number: 511EY
TI Isolation of an N-**acetylglutamate synthase** or kinase-like mammalian **gene**.
AU Caldovic L (Reprint); Morizono H; Shi D S; Tuchman M
CS Childrens Natl Med Ctr, Washington, DC 20010 USA
CYA USA
SO BIOPHYSICAL JOURNAL, (JAN 2002) Vol. 82, No. 1, Part 2, pp. 437A-437A. MA 2130.
Publisher: BIOPHYSICAL SOCIETY, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3998 USA.
ISSN: 0006-3495.
DT Conference; Journal
LA English
REC Reference Count: 0

L3 ANSWER 8 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:353138 BIOSIS
DN PREV200200353138
TI Isolation of an N-**acetylglutamate synthase** or kinase-like mammalian **gene**.
AU Caldovic, Ljubica (1); Morizono, Hiroki (1); Shi, Dashuang (1); Tuchman, Mendel (1)
CS (1) Childrens National Medical Center, 111 Michigan Ave NW, Washington, DC, 20010 USA
SO Biophysical Journal, (January, 2002) Vol. 82, No. 1 Part 2, pp. 437a. http://intl.biophysj.org/. print.
Meeting Info.: 46th Annual Meeting of the Biophysical Society San Francisco, California, USA February 23-27, 2002
ISSN: 0006-3495.
DT Conference
LA English

L3 ANSWER 9 OF 29 SCISEARCH COPYRIGHT 2003 THOMSON ISIDUPLICATE 6
AN 2003:348703 SCISEARCH
GA The Genuine Article (R) Number: 594AC
TI Cloning and characterization of the human n-**acetylglutamate synthase gene**.
AU Caldovic L M (Reprint); Morizono H; Gallegos R; Malamy M H; Tuchman M
CS CNMC, Ctr Genet Med, Washington, DC USA; Tufts Univ, Dept Microbiol, Boston, MA 02111 USA
CYA USA
SO AMERICAN JOURNAL OF HUMAN GENETICS, (OCT 2002) Vol. 71, No. 4, Supp. [S], pp. 424-424. MA 1483.
Publisher: UNIV CHICAGO PRESS, 1427 E 60TH ST, CHICAGO, IL 60637-2954 USA.
ISSN: 0002-9297.
DT Conference; Journal
LA English
REC Reference Count: 0

L3 ANSWER 10 OF 29 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:385721 SCISEARCH
GA The Genuine Article (R) Number: 536RA
TI Identification, cloning and expression of the mouse N-**acetylglutamate synthase gene**
AU Caldovic L (Reprint); Morizono H; Yu X L; Thompson M; Shi D H; Gallegos R; Allewll N M; Malamy M H; Tuchman M
CS Childrens Natl Med Ctr, Childrens Res Inst, Washington, DC 20010 USA; Univ Maryland, Coll Life Sci, College Pk, MD 20742 USA; Tufts Univ, Dept Microbiol, Boston, MA 02155 USA
CYA USA
SO PEDIATRIC RESEARCH, (APR 2002) Vol. 51, No. 4, Part 2, Supp. [S], pp. 228A-228A. MA 1328.
Publisher: INT PEDIATRIC RESEARCH FOUNDATION, INC, 351 WEST CAMDEN ST, BALTIMORE, MD 21201-2436 USA.
ISSN: 0031-3998.
DT Conference; Journal
LA English
REC Reference Count: 0

=> d 11-20

L3 ANSWER 11 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:472895 BIOSIS
DN PREV200200472895
TI Identification, cloning and expression of the mouse N-**acetylglutamate synthase gene.**
AU Caldovic, Ljubica (1); Morizono, Hiroki; Yu, Xiaolin; Thompson, Mark; Shi, Dashuang; Gallegos, Rene; Allewll, Norma M.; Malamy, Michael H.; Tuchman, Mendel
CS (1) Children's Research Institute, Children's National Medical Center, Washington, DC USA
SO Pediatric Research, (April, 2002) Vol. 51, No. 4 Part 2, pp. 228A. http://www.pedresearch.org/. print.
Meeting Info.: Annual Meeting of the Pediatric Societies' Baltimore, MD, USA May 04-07, 2002
ISSN: 0031-3998.
DT Conference
LA English

L3 ANSWER 12 OF 29 MEDLINE DUPLICATE 7
AN 2001652546 MEDLINE
DN 21560951 PubMed ID: 11553611
TI A new yeast metabolon involving at least the two first enzymes of arginine biosynthesis: acetylglutamate synthase activity requires complex formation with acetylglutamate kinase.
AU Abadjieva A; Pauwels K; Hilven P; Crabeel M
CS Department of Microbiology of the Vrije Universiteit Brussel, Belgium.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (2001 Nov 16) 276 (46) 42869-80.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20011114
Last Updated on STN: 20030105
Entered Medline: 20011226

L3 ANSWER 13 OF 29 MEDLINE DUPLICATE 8
AN 2000158877 MEDLINE
DN 20158877 PubMed ID: 10692366
TI Evolution of arginine biosynthesis in the bacterial domain: novel gene-enzyme relationships from psychrophilic Moritella strains (Vibrionaceae) and evolutionary significance of N-alpha-acetyl ornithinase.
AU Xu Y; Liang Z; Legrain C; Ruger H J; Glansdorff N
CS Laboratory for Genetics and Microbiology, Vrije Universiteit Brussel (VUB), and Department of Microbiology, Flanders Interuniversity Institute for Biotechnology, B-1070 Brussels, Belgium.
SO JOURNAL OF BACTERIOLOGY, (2000 Mar) 182 (6) 1609-15.
Journal code: 2985120R. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Space Life Sciences
OS GENBANK-AJ252020; GENBANK-AJ252021; GENBANK-AJ252022; GENBANK-AJ252023
EM 200003
ED Entered STN: 20000407
Last Updated on STN: 20000407
Entered Medline: 20000324

L3 ANSWER 14 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:59656 BIOSIS
DN PREV200100059656
TI Differential diagnosis of hyperammonaemia: Ornithine transcarbamylase deficiency presenting with normal urinary orotic acid excretion.

AU Raiman, J. A. J. (1); Cham[redacted]n, M. P.; Baker, A. J. (1); Da[redacted]n, R. N.
CS (1) Department of Paediatric Hepatology, Kings College Hospital, London UK
SO Journal of Inherited Metabolic Disease, (July, 2000) Vol. 23, No. Supplement 1, pp. 53. print.
Meeting Info.: VIIIth International Conference on Inborn Errors of Metabolism England, Cambridge, UK September 13-17, 2000
ISSN: 0141-8955.
DT Conference
LA English
SL English

L3 ANSWER 15 OF 29 MEDLINE DUPLICATE 9
AN 1999439814 MEDLINE
DN 99439814 PubMed ID: 10509023
TI Disruption of six ORFs on Saccharomyces cerevisiae chromosome X: the YJL069c gene of unknown function is essential to cell viability.
AU Vandenbol M; Portetelle D
CS Unite de Microbiologie, Faculte Universitaire des Sciences Agronomiques de Gembloux, 6 Avenue Marechal Juin, B-5030 Gembloux, Belgium.. vandenbol@sagx.ac.be
SO YEAST, (1999 Sep 30) 15 (13) 1411-7.
Journal code: 8607637. ISSN: 0749-503X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199910
ED Entered STN: 19991101
Last Updated on STN: 19991101
Entered Medline: 19991021

L3 ANSWER 16 OF 29 MEDLINE DUPLICATE 10
AN 1998247316 MEDLINE
DN 98247316 PubMed ID: 9572954
TI Use of inducible feedback-resistant N-**acetylglutamate synthetase** (argA) **genes** for enhanced arginine biosynthesis by genetically engineered Escherichia coli K-12 strains.
AU Rajagopal B S; DePonte J 3rd; Tuchman M; Malamy M H
CS Department of Pediatrics, University of Minnesota, Minneapolis 55455, USA.
NC 1PO1-HD32652 (NICHD)
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1998 May) 64 (5) 1805-11.
Journal code: 7605801. ISSN: 0099-2240.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-AF008115; GENBANK-AF008116; GENBANK-AF008117; GENBANK-AF008118; GENBANK-AF008119
EM 199805
ED Entered STN: 19980609
Last Updated on STN: 20000303
Entered Medline: 19980528

L3 ANSWER 17 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:104126 BIOSIS
DN PREV199900104126
TI N-Acetylglutamate synthetase deficiency: Favourable experience with carbamylglutamate.
AU Morris, A. A. M. (1); Richmond, S. W. J.; Oddie, S. J.; Pourfarzam, M.; Worthington, V.; Leonard, J. V.
CS (1) Dep. Child Health, Royal Victoria Infirmary, Newcastle-upon-Tyne NE1 3LP UK
SO Journal of Inherited Metabolic Disease, (Dec., 1998) Vol. 21, No. 8, pp. 867-868.
ISSN: 0141-8955.
DT Article
LA English

L3 ANSWER 18 OF 29 MEDLINE DUPLICATE 11

AN 97093974 MEDLINE
DN 97093974 PubMed ID: 8939457
TI Acetylglutamate synthase from Neurospora crassa: structure and regulation of expression.
AU Yu Y G; Turner G E; Weiss R L
CS Department of Chemistry and Biochemistry, University of California, Los Angeles 90095-1569, USA.
NC GM47631 (NIGMS)
SO MOLECULAR MICROBIOLOGY, (1996 Nov) 22 (3) 545-54.
Journal code: 8712028. ISSN: 0950-382X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-L35484
EM 199703
ED Entered STN: 19970321
Last Updated on STN: 19970321
Entered Medline: 19970313

L3 ANSWER 19 OF 29 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 95158726 EMBASE
DN 1995158726
TI N-acetylglutamate deficiency: Clinical and biochemical features.
AU Colombo J.P.
CS Department of Clinical Chemistry, Inselspital, University of Berne,3010 Berne, Switzerland
SO International Pediatrics, (1995) 10/1 (109-113).
ISSN: 0885-6265 CODEN: INPDEV
CY United States
DT Journal; Conference Article
FS 005 General Pathology and Pathological Anatomy
007 Pediatrics and Pediatric Surgery
008 Neurology and Neurosurgery
022 Human Genetics
029 Clinical Biochemistry
LA English
SL English

L3 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:490007 HCAPLUS
DN 119:90007
TI Primary structure, partial purification and regulation of key enzymes of the acetyl cycle of arginine biosynthesis in Bacillus stearothermophilus: dual function of ornithine acetyltransferase
AU Sakanyan, Vehary; Charlier, Daniel; Legrain, Christianne; Kochikyan, Anahit; Mett, Igor; Pierard, Andre; Glansdorff, Nicolas
CS Pharmagen, Yerevan, 375010, Armenia
SO Journal of General Microbiology (1993), 139(3), 393-402
CODEN: JGMIAN; ISSN: 0022-1287
DT Journal
LA English

=> d 21-29

L3 ANSWER 21 OF 29 SCISEARCH COPYRIGHT 2003 THOMSON ISIDUPLICATE 12
AN 93:407267 SCISEARCH
GA The Genuine Article (R) Number: LJ397
TI DNA-SEQUENCE CONSERVATION AT THE GENE LEVEL IN A CONSERVED CHROMOSOMAL SEGMENT IN 2 PSEUDOMONAS SPECIES
AU DHARMSTHITI S (Reprint); KRISHNAPILLAI V
CS MONASH UNIV, DEPT GENET & DEV BIOL, CLAYTON, VIC 3168, AUSTRALIA
CYA AUSTRALIA
SO JOURNAL OF GENETICS, (APR 1993) Vol. 72, No. 1, pp. 1-14.
ISSN: 0022-1333.
DT Article; Journal
FS LIFE
LA ENGLISH

REC Reference Count: 31
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L3 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:110608 HCAPLUS
DN 110:110608
TI Acetylglutamate synthase in Neurospora crassa: characterization, localization, and genetic behavior of a regulatory enzyme of arginine biosynthesis
AU Jacobson, Jill Ann
CS Univ. California, Los Angeles, CA, USA
SO (1988) 131 pp. Avail.: Univ. Microfilms Int., Order No. DA8810897 From: Diss. Abstr. Int. B 1988, 47(5), 1672
DT Dissertation
LA English

L3 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:129896 HCAPLUS
DN 110:129896
TI Transformation of Corynebacterium and Brevibacterium with plasmids encoding arginine biosynthesis enzymes and arginine manufacture with the transformants
IN Katsumata, Ryoichi; Yokoi, Haruhiko
PA Kyowa Hakko Kogyo Co., Ltd., Japan
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 261627	A2	19880330	EP 1987-113780	19870921
	EP 261627	A3	19891004		
	EP 261627	B1	19930421		
	R: DE, FR, GB				
	JP 63079597	A2	19880409	JP 1986-224189	19860922
	JP 07028749	B4	19950405		
	US 5017482	A	19910521	US 1987-99798	19870922
PRAI	JP 1986-224189		19860922		

L3 ANSWER 24 OF 29 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 13
AN 87:57092 LIFESCI
TI Complete nucleotide sequence of the Escherichia coli argA gene.
AU Brown, K.; Finch, P.W.; Hickson, I.D.; Emmerson, P.T.
CS Dep. Biochem., Med. Sch., Univ. Newcastle upon Tyne, Newcastle upon Tyne NE2 4HH, UK
SO NUCLEIC ACIDS RES., (1987) vol. 15, no. 24, p. 10586.
DT Journal
FS J; N; G; L
LA English

L3 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AN 1986:221189 HCAPLUS
DN 104:221189
TI N-Acetyl-L-glutamate synthase of Neurospora crassa. Characteristics, localization, regulation, and genetic control
AU Hinde, Richard W.; Jacobson, Jill A.; Weiss, Richard L.; Davis, Rowland H.
CS Sch. Biol. Sci., Macquarie Univ., North Ryde, 2113, Australia
SO Journal of Biological Chemistry (1986), 261(13), 5848-52
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English

L3 ANSWER 26 OF 29 MEDLINE DUPLICATE 14
AN 86195911 MEDLINE
DN 86195911 PubMed ID: 3516981
TI Instability of an arginine-overproducing mutant of Serratia marcescens and its stabilization.
AU Takagi T; Sugiura M; Kisumi M

SO JOURNAL OF BIOCHEMISTRY, (5 Feb) 99 (2) 357-64.
Journal code: 0376600. ISSN: 0021-924X.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198606
ED Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860609

L3 ANSWER 27 OF 29 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 15
AN 1985:314693 BIOSIS
DN BA79:94689
TI A 2-STEP PURIFICATION OF ATP-CITRATE LYASE EC-4.1.3.8 FROM RAT LIVER AND ITS USE IN A FLUOROMETRIC ASSAY FOR N ACETYLGLUTAMATE SYNTHETASE EC-2.3.1.1.
AU WRAIGHT C; DAY A; HOOGENRAAD N; SCOPES R
CS DEPARTMENT BIOCHEMISTRY, LA TROBE UNIVERSITY, BUNDOORA, VICTORIA 3083, AUSTRALIA.
SO ANAL BIOCHEM, (1985) 144 (2), 604-609.
CODEN: ANBCA2. ISSN: 0003-2697.
FS BA; OLD
LA English

L3 ANSWER 28 OF 29 MEDLINE DUPLICATE 16
AN 83210185 MEDLINE
DN 83210185 PubMed ID: 6852246
TI Effect of starvation on the N-acetylglutamate system of rat liver.
AU Gomez M; Jorda A; Cabo J; Grisolia S
SO FEBS LETTERS, (1983 May 30) 156 (1) 119-22.
Journal code: 0155157. ISSN: 0014-5793.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198307
ED Entered STN: 19900319
Last Updated on STN: 19980206
Entered Medline: 19830715

L3 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AN 1976:161684 HCAPLUS
DN 84:161684
TI Expression of the argA gene carried by a defective lambda bacteriophage of Escherichia coli
AU Leisinger, Thomas; Haas, Dieter; Kelker, Norman
CS Mikrobiol. Inst., ETH, Zurich, Switz.
SO Journal of Bacteriology (1976), 125(3), 1217-19
CODEN: JOBAAY; ISSN: 0021-9193
DT Journal
LA English

=> d 16, 20, 24 ab

L3 ANSWER 16 OF 29 MEDLINE DUPLICATE 10
AB The goal of this work was to construct Escherichia coli strains capable of enhanced arginine production. The arginine biosynthetic capacity of previously engineered E. coli strains with a derepressed arginine regulon was limited by the availability of endogenous ornithine (M. Tuchman, B. S. Rajagopal, M. T. McCann, and M. H. Malamy, Appl. Environ. Microbiol. 63:33-38, 1997). Ornithine biosynthesis is limited due to feedback inhibition by arginine of N-acetylglutamate synthetase (NAGS), the product of the argA gene and the first enzyme in the pathway of arginine biosynthesis in E. coli. To circumvent this inhibition, the argA genes from E. coli mutants with feedback-resistant (fbr) NAGS were cloned into plasmids that contain "arg boxes," which titrate the ArgR repressor

protein, with or without t[redacted]E. coli carAB genes encoding c[redacted]amyl phosphate synthetase and the argI gene for ornithine transcarbamylase. The free arginine production rates of "arg-derepressed" E. coli cells overexpressing plasmid-encoded carAB, argI, and fbr argA genes were 3- to 15-fold higher than that of an equivalent system overexpressing feedback-sensitive wild-type (wt) argA. The expression system with fbr argA produced 7- to 35-fold more arginine than a system overexpressing carAB and argI genes on a plasmid in a strain with a wt argA gene on the chromosome. The arginine biosynthetic capacity of arg-derepressed DH5 alpha strains with plasmids containing only the fbr argA gene was similar to that of cells with plasmids also containing the carAB and argI genes. Plasmids containing wt or fbr argA were stably maintained under normal growth conditions for at least 18 generations. DNA sequencing identified different point mutations in each of the fbr argA mutants, specifically H15Y, Y19C, S54N, R58H, G287S, and Q432R.

L3 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2003 ACS
AB A 3.4 kb EcoRI fragment, cloned in Escherichia coli, that carries part of a cluster of genes encoding arginine biosynthetic functions of the thermophilic bacterium Bacillus stearothermophilus, was sequenced on both strands. The sequence consists of a truncated argC gene, an argJ region encoding a polypeptide with both N-acetylglutamate synthase and ornithine acetyltransferase activities, the argB gene and the N-terminal part of argD. The argB gene encodes a 258-amino-acid polypeptide with a deduced Mr of 26918. A very high and thermostable N-acetylglutamate 5-phosphotransferase activity was detected in exts. of E. coli argB mutants transformed with the 3.4 kb fragment on a plasmid. A polypeptide band of Mr 27,000 was detected by SDS-PAGE of heat-treated ext. from such a strain. Both N-acetylglutamate synthase and ornithine acetyltransferase are encoded by the same 1290 bp open reading frame. The deduced sequence of 410 amino acids corresponds to a peptide of Mr 43,349. The subcloned B. stearothermophilus argJ can complement a double argA argE E. coli mutant to prototrophy. Gel-filtration of a heat-treated ext. of the complemented double mutant E. coli host showed that N-acetylglutamate synthase and ornithine acetyltransferase activities co-elute in a single peak corresponding to Mr 110,000. Both activities were also heat-inactivated at the same temp. and strongly inhibited by ornithine. These results suggest that both activities can be ascribed to a single protein.

L3 ANSWER 24 OF 29 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 13
AB The authors have sequenced the E. coli argA **gene** which encodes N-**acetylglutamate synthase** (EC 2.3.1.1.). The sequence is continuous with that reported previously for the recD gene, which included the stop codon for argA . Assignment of the initiation codon of argA to the GTG triplet at bp 244 is based upon N-terminal amino acid sequence analysis of purified N-acetylglutamate synthase, which also indicates that the N-terminal amino acid residue is removed. The predicted protein has a M sub(r) of 49,065, in close agreement with the subunit M sub(r) of 50,000 determined for the purified protein. The deduced amino acid sequences is also reported.

=> dis his

(FILE 'HOME' ENTERED AT 18:19:36 ON 25 JUN 2003)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 18:20:20 ON 25 JUN 2003
L1 609 S ACETYLGLUTAM? (3W) (SYNTHASE OR SYNTHETASE)
L2 94 S L1 (5A) (GENE? OR DNA OR NUCLE?)
L3 29 DUP REM L2 (65 DUPLICATES REMOVED)

=> s l1 (5a) coli
L4 48 L1 (5A) COLI

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 15 DUP REM L4 (33 DUPLICATES REMOVED)

=> d 1-10

L5 ANSWER 1 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2002-10205 BIOTECHDS
TI Novel mutant N-acetylglutamate synthase which desensitizes feedback inhibition by L-arginine, useful in biosynthesis of arginine by Escherichia coli;
vector-mediated gene transfer and expression in host cell for strain improvement
AU PTITSYN L R; ALTMAN I B; SMIRNOV S V; ROSTOVA Y G; YAMPOLSKAYA T A; LEONOVA T V; GUSYATINER M M
PA AJINOMOTO CO INC
PI EP 1170361 9 Jan 2002
AI EP 2000-114572 28 Jun 2000
PRAI RU 2001-112869 15 May 2001
DT Patent
LA English
OS WPI: 2002-165893 [22]

L5 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:519178 HCAPLUS
DN 137:258271
TI Identification, cloning and expression of the mouse N-acetylglutamate synthase gene
AU Caldovic, Ljubica; Morizono, Hiroki; Yu, Xiaolin; Thompson, Mark; Shi, Dashuang; Gallegos, Rene; Allewell, Norma M.; Malamy, Michael H.; Tuchman, Mendel
CS Children's Research Institute, Children's National Medical Center, George Washington University, Washington, DC, 20010, USA
SO Biochemical Journal (2002), 364(3), 825-831
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press Ltd.
DT Journal
LA English
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2003-00568 BIOTECHDS
TI Cloning and expression of the human N-acetylglutamate synthase gene;
recombinant protein production and purification useful for genomics analysis and diagnosis
AU CALDOVIC L; MORIZONO H; PANGLAO MG; GALLEGOS R; YU XL; SHI DS; MALAMY MH; ALLEWELL NM; TUCHMAN M
CS George Washington Univ; Tufts Univ; Univ Maryland
LO Tuchman M, George Washington Univ, Childrens Natl Med Ctr, Childrens Res Inst, 111 Michigan Ave NW, Washington, DC 20010 USA
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS; (2002) 299, 4, 581-586 ISSN: 0006-291X
DT Journal
LA English

L5 ANSWER 4 OF 15 MEDLINE DUPLICATE 2
AN 1998154436 MEDLINE
DN 98154436 PubMed ID: 9493385
TI Genes and enzymes of the acetyl cycle of arginine biosynthesis in the extreme thermophilic bacterium Thermus thermophilus HB27.
AU Baetens M; Legrain C; Boyen A; Glansdorff N
CS Universiteit Brussel, Belgium.
SO MICROBIOLOGY, (1998 Feb) 144 (Pt 2) 479-92.
Journal code: 9430468. ISSN: 1350-0872.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-Y10525
EM 199804
ED Entered STN: 19980430

Last Updated on STN: 19980
Entered Medline: 19980421

L5 ANSWER 5 OF 15 MEDLINE DUPLICATE 3
AN 1998088945 MEDLINE
DN 98088945 PubMed ID: 9428669
TI Characterization of the Saccharomyces cerevisiae ARG7 gene encoding ornithine acetyltransferase, an enzyme also endowed with acetylglutamate synthase activity.
AU Crabeel M; Abadjieva A; Hilven P; Desimpelaere J; Soetens O
CS Department of Microbiology of the Vrije Universiteit Brussel, Brussels, Belgium.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1997 Dec 1) 250 (2) 232-41.
Journal code: 0107600. ISSN: 0014-2956.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-S52822
EM 199801
ED Entered STN: 19980130
Last Updated on STN: 19980130
Entered Medline: 19980122

L5 ANSWER 6 OF 15 MEDLINE DUPLICATE 4
AN 93232760 MEDLINE
DN 93232760 PubMed ID: 8473852
TI Primary structure, partial purification and regulation of key enzymes of the acetyl cycle of arginine biosynthesis in Bacillus stearothermophilus: dual function of ornithine acetyltransferase.
AU Sakanyan V; Charlier D; Legrain C; Kochikyan A; Mett I; Pierard A; Glansdorff N
CS Pharmagen, Yerevan, Republic of Armenia.
SO JOURNAL OF GENERAL MICROBIOLOGY, (1993 Mar) 139 (Pt 3) 393-402.
Journal code: 0375371. ISSN: 0022-1287.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-L06036
EM 199305
ED Entered STN: 19930604
Last Updated on STN: 19930604
Entered Medline: 19930520

L5 ANSWER 7 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 1988-06169 BIOTECHDS
TI New Corynebacterium and Brevibacterium strains;
contain recombinant DNA and produce L-arginine in higher yields
PA Kyowa-Hakko
PI EP 261627 30 Mar 1988
AI EP 1987-113780 21 Sep 1987
PRAI JP 1986-224189 22 Sep 1986
DT Patent
LA English
OS WPI: 1988-085929 [13]

L5 ANSWER 8 OF 15 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 6
AN 87:57092 LIFESCI
TI Complete nucleotide sequence of the Escherichia coli argA gene.
AU Brown, K.; Finch, P.W.; Hickson, I.D.; Emmerson, P.T.
CS Dep. Biochem., Med. Sch., Univ. Newcastle upon Tyne, Newcastle upon Tyne NE2 4HH, UK
SO NUCLEIC ACIDS RES., (1987) vol. 15, no. 24, p. 10586.
DT Journal
FS J; N; G; L
LA English

L5 ANSWER 9 OF 15 MEDLINE DUPLICATE 7

AN 77187802 MEDLINE
DN 77187802 PubMed ID: 16890
TI N-**acetylglutamate synthase** of Escherichia **coli**
: purification, characterization, and molecular properties.
AU Marvil D K; Leisinger T
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1977 May 25) 252 (10) 3295-303.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197707
ED Entered STN: 19900314
Last Updated on STN: 19950206
Entered Medline: 19770723

L5 ANSWER 10 OF 15 MEDLINE DUPLICATE 8
AN 75095646 MEDLINE
DN 75095646 PubMed ID: 1089665
TI N-**Acetylglutamate synthase** of Escherichia **coli**
regulation of synthesis and activity by arginine.
AU Leisinger T; Haas D
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1975 Mar 10) 250 (5) 1690-3.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197505
ED Entered STN: 19900310
Last Updated on STN: 19970203
Entered Medline: 19750521

=> d 11-15

L5 ANSWER 11 OF 15 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 75:90791 SCISEARCH
GA The Genuine Article (R) Number: V8871
TI N-**ACETYLGLUTAMATE SYNTHASE** OF ESCHERICHIA-**COLI**
REGULATION OF SYNTHESIS AND ACTIVITY BY ARGININE
AU LEISINGER T (Reprint); HAAS D
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1975) Vol. 250, No. 5, pp. 1690-1693.
DT Article; Journal
LA ENGLISH
REC Reference Count: 22

L5 ANSWER 12 OF 15 MEDLINE DUPLICATE 9
AN 76050850 MEDLINE
DN 76050850 PubMed ID: 1102931
TI Isolation and characterization of mutants with a feedback resistant N-
acetylglutamate synthase in Escherichia **coli** K
12.
AU Eckhardt T; Leisinger T
SO MOLECULAR AND GENERAL GENETICS, (1975 Jun 19) 138 (3) 225-32.
Journal code: 0125036. ISSN: 0026-8925.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197601
ED Entered STN: 19900313
Last Updated on STN: 19980206
Entered Medline: 19760123

L5 ANSWER 13 OF 15 MEDLINE DUPLICATE 10
AN 74277268 MEDLINE
DN 74277268 PubMed ID: 4602003
TI In vitro assay and some properties of N-**acetylglutamate**

synthetase from Escherichi[redacted]**li**.
AU Haas D; Leisinger T
SO PATHOLOGIA ET MICROBIOLOGIA, (1974) 40 (3) 140-1.
Journal code: 0401122. ISSN: 0031-2959.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197409
ED Entered STN: 19900310
Last Updated on STN: 19900310
Entered Medline: 19740928

L5 ANSWER 14 OF 15 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 74:218877 SCISEARCH
GA The Genuine Article (R) Number: T3792
TI INVITRO ASSAY AND SOME PROPERTIES OF N-**ACETYLGLUTAMATE SYNTHETASE** FROM ESCHERICHIA-**COLI**
AU HAAS D (Reprint); LEISINGE.T
CS EIDGENOSSIS TECH HSCH, MIKROBIOL INST, CH-8006 ZURICH, SWITZERLAND
CYA SWITZERLAND
SO PATHOLOGIA ET MICROBIOLOGIA, (1974) Vol. 40, No. 3-4, pp. 140-141.
DT Article; Journal
LA ENGLISH
REC Reference Count: 3

L5 ANSWER 15 OF 15 MEDLINE DUPLICATE 11
AN 62189958 MEDLINE
DN 62189958
TI Feedback inhibition of **acetylglutamate synthetase** by arginine in Escherichia **coli**.
AU VYAS S; MAAS W K
SO Arch Biochem, (1963 Mar) 100 542-6.
DT Journal
LA English
FS OLDMEDLINE
EM 196312
ED Entered STN: 19990716
Last Updated on STN: 19990716

=> d 5, 12 ab

L5 ANSWER 5 OF 15 MEDLINE DUPLICATE 3
AB We have cloned by functional complementation and characterized the yeast ARG7 gene encoding mitochondrial ornithine acetyltransferase, the enzyme catalyzing the fifth step in arginine biosynthesis. While forming ornithine, this enzyme regenerates acetylglutamate, also produced in the first step by the ARG2-encoded acetylglutamate synthase. Interestingly, total deletion of the genomic ARG7 ORF resulted in an arginine-leaky phenotype, indicating that yeast cells possess an alternative route for generating ornithine from acetylornithine. Yeast ornithine acetyltransferase has been purified and characterized previously as a heterodimer of two subunits proposed to derive from a single precursor protein [Liu, Y-S., Van Heeswijck R., Hoj, P. & Hoogenraad, N. (1995) Eur. J. Biochem. 228, 291-296]; those authors further suggested that the internal processing of Arg7p, which is a mitochondrial enzyme, might occur in the matrix, while the leader peptide would be of the non-cleavable-type. The characterization of the gene (a) establishes that Arg7p is indeed encoded by a single gene, (b) demonstrates the existence of a cleaved mitochondrial prepeptide of eight residues, and (c) shows that the predicted internal processing site is unlike the mitochondrial proteolytic peptidase target sequence. Yeast Arg7p shares between 32-43% identity in pairwise comparisons with the ten analogous bacterial ArgJ enzymes characterized. Among these evolutionarily related enzymes, some but not all appear bifunctional, being able to produce acetylglutamate not only from acetylornithine but also from acetyl-CoA, thus catalyzing the same reaction as the apparently unrelated acetylglutamate synthase. We have addressed the question of the bifunctionality of the eucaryotic

enzyme, showing that overe[redacted]essed ARG7 can complement yeas[redacted]rg2 and Escherichia **coli** argA mutations (affecting **acetylglutamate synthase**). Furthermore, Arg7p-linked acetylglutamate synthase activity was measurable in an assay. The yeast enzyme is thus clearly, albeit modestly, bifunctional. As with several bacterial ornithine acetyltransferases, the activity of Arg7p was practically insensitive to arginine but strongly inhibited by ornithine, which behaved as a competitive inhibitor.

L5 ANSWER 12 OF 15 MEDLINE DUPLICATE 9
AB Mutants with a feedback resistant N-acetylglutamate synthase have been isolated from a proA/B, argD, argR strain by screening for proline excretion on minimal medium with arginine. The feedback resistant character of three mutants was transduced into an argA (N-acetylglutamate synthase negative) strain. It was cotransducible with argA at a frequency of greater than 99%. N-acetylglutamate synthase extracted from the three mutants was approximately one hundred times less sensitive to L-arginine than the enzyme from the feedback sensitive parent strain.

=> s argj (5a) coli
L6 17 ARGJ (5A) COLI

=> s l6 and arga
L7 9 L6 AND ARGA

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8 2 DUP REM L7 (7 DUPLICATES REMOVED)

=> d 1,2

L8 ANSWER 1 OF 2 MEDLINE DUPLICATE 1
AN 2000495139 MEDLINE
DN 20389546 PubMed ID: 10931207
TI Characterization and kinetic mechanism of mono- and bifunctional ornithine acetyltransferases from thermophilic microorganisms.
AU Marc F; Weigel P; Legrain C; Almeras Y; Santrot M; Glansdorff N; Sakanyan V
CS FRE-CNRS 2230 Biocatalyse, Laboratoire de Biotechnologie, Universite de Nantes, France.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (2000 Aug) 267 (16) 5217-26.
Journal code: 0107600. ISSN: 0014-2956.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200010
ED Entered STN: 20001027
Last Updated on STN: 20001027
Entered Medline: 20001018

L8 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1992:192819 BIOSIS
DN BA93:103769
TI A RE-EXAMINATION OF THE PATHWAY FOR ORNITHINE BIOSYNTHESIS IN A THERMOPHILIC AND TWO MESOPHILIC BACILLUS-SPP.
AU SAKANYAN V; KOCHIKYAN A; METT I; LEGRAIN C; CHARLIES D; PIERARD A; GLANSDORFF N
CS RES. INST., CERIA-COOVI, 1 AVE. EMILE GRYSON, B-1070 BRUSSELS, BELG.
SO J GEN MICROBIOL, (1992) 138 (1), 125-130.
CODEN: JGMIAN. ISSN: 0022-1287.
FS BA; OLD
LA English

=> d 1,2 ab

L8 ANSWER 1 OF 2 MEDLINE DUPLICATE 1

AB The argJ gene coding for N[redacted]cetyl-L-ornithine: L-glutamate N-acetyltransferase, the key enzyme involved in the acetyl cycle of L-arginine biosynthesis, has been cloned from thermophilic procaryotes: the archaeon Methanoccocus jannaschii, and the bacteria Thermotoga neapolitana and Bacillus stearothermophilus. Archaeal **argJ** only complements an Escherichia **coli** argE mutant (deficient in acetylornithinase, which catalyzes the fifth step in the linear biosynthetic pathway), whereas bacterial genes additionally complement an **argA** mutant (deficient in N-acetylglutamate synthetase, the first enzyme of the pathway). In keeping with these in vivo data the purified His-tagged ArgJ enzyme of M. jannaschii only catalyzes N2-acetylornithine conversion to ornithine, whereas T. neapolitana and B. stearothermophilus ArgJ also catalyze the conversion of glutamate to N-acetylglutamate using acetylCoA as the acetyl donor. M. jannaschii ArgJ is therefore a monofunctional enzyme, whereas T. neapolitana and B. stearothermophilus encoded ArgJ are bifunctional. Kinetic data demonstrate that in all three thermophilic organisms ArgJ-mediated catalysis follows ping-pong bi-bi kinetic mechanism. Acetylated ArgJ intermediates were detected in semireactions using [14C]acetylCoA or [14C]N2-acetyl-L-glutamate as acetyl donors. In this catalysis L-ornithine acts as an inhibitor; this amino acid therefore appears to be a key regulatory molecule in the acetyl cycle of L-arginine synthesis. Thermophilic ArgJ are synthesized as protein precursors undergoing internal cleavage to generate alpha and beta subunits which appear to assemble to alpha2beta2 heterotetramers in E. coli. The cleavage occurs between alanine and threonine residues within the highly conserved PXM-ATML motif detected in all available ArgJ sequences.

L8 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AB The expression of Bacillus stearothermophilus genes complementing arginine auxotrophs of Escherichia coli was studied. The activity responsible for the formation of ornithine in B. stearothermophilus was identified as a repressible ornithine acetyltransferase (genetic symbol arg J) encoded by the same DNA fragment as the argC, **argA** and argB genes. Bacillus subtilis and Bacillus licheniformis displayed the same pattern of enzyme activities as B. stearothermophilus. In contrast to previous reports, these organisms consequently use the cyclic pathway of ornithine biosynthesis. B. stearothermophilus also possesses a broad specificity aminoacylase which exhibits low affinity towards N2-acetyl-L-ornithine.

=> dup rem l6
PROCESSING COMPLETED FOR L6
L9 4 DUP REM L6 (13 DUPLICATES REMOVED)

=> d 1-4

L9 ANSWER 1 OF 4 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2002-16737 BIOTECHDS
TI Microorganism for the production of L-arginine, comprises a recombinant DNA gene coding for an enzyme having ornithine acetyltransferase activity;
involving recombinant vector plasmid DNA-mediated ornithine-acetyltransferase and expression in Escherichia coli culture medium optimization and fermentation
AU SAKANYAN V; MARC F; HOVSEPYAN A; LECOCQ M
PA AJINOMOTO CO INC
PI EP 1201758 2 May 2002
AI EP 2000-403003 27 Oct 2000
PRAI EP 2000-403003 27 Oct 2000
DT Patent
LA English
OS WPI: 2002-428567 [46]

L9 ANSWER 2 OF 4 MEDLINE DUPLICATE 2
AN 2000495139 MEDLINE
DN 20389546 PubMed ID: 10931207
TI Characterization and kinetic mechanism of mono- and bifunctional ornithine acetyltransferases from thermophilic microorganisms.

AU Marc F; Weigel P; Legrain [redacted]lmeras Y; Santrot M; Glansdor[redacted]; Sakanyan V
CS FRE-CNRS 2230 Biocatalyse, Laboratoire de Biotechnologie, Universite de Nantes, France.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (2000 Aug) 267 (16) 5217-26.
Journal code: 0107600. ISSN: 0014-2956.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200010
ED Entered STN: 20001027
Last Updated on STN: 20001027
Entered Medline: 20001018

L9 ANSWER 3 OF 4 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 3
AN 94:97080 LIFESCI
TI Cloning and expression in Escherichia coli of a Streptomyces coelicolor A3(2) argCJB gene cluster
AU Hindle, Z.; Callis, R.; Dowden, S.; Rudd, B.A.M.; Baumberg, S.
CS Dep. Biochem. and Appl. Mol. Biol., UMIST, Manchester M60 1QD, UK
SO MICROBIOLOGY, (1994) vol. 140, no. 2, pp. 311-320.
ISSN: 1350-0872.
DT Journal
FS J; N; G
LA English
SL English

L9 ANSWER 4 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1992:192819 BIOSIS
DN BA93:103769
TI A RE-EXAMINATION OF THE PATHWAY FOR ORNITHINE BIOSYNTHESIS IN A THERMOPHILIC AND TWO MESOPHILIC BACILLUS-SPP.
AU SAKANYAN V; KOCHIKYAN A; METT I; LEGRAIN C; CHARLIES D; PIERARD A; GLANSDORFF N
CS RES. INST., CERIA-COOVI, 1 AVE. EMILE GRYSON, B-1070 BRUSSELS, BELG.
SO J GEN MICROBIOL, (1992) 138 (1), 125-130.
CODEN: JGMIAN. ISSN: 0022-1287.
FS BA; OLD
LA English

=> d 1 ab

L9 ANSWER 1 OF 4 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AB DERWENT ABSTRACT:
NOVELTY - A microorganism that produces L-arginine through a biosynthetic or cyclic pathway, and that bears a recombinant DNA comprising a gene, argJ, coding for an enzyme having an ornithine acetyltransferase activity, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for producing L-arginine comprising cultivating the new microorganism in a culture medium to produce and accumulate L-arginine in the medium, and recovering L-arginine from the medium.

BIOTECHNOLOGY - Preferred Microorganism: The microorganism preferably synthesizes L-arginine through the biosynthetic linear pathway. The argJ gene codes for a bifunctional enzyme having both ornithine acetyltransferase and acetylglutamate synthetase activity. The enzyme is devoid of inhibition by L-arginine. The microorganism is Escherichia **coli**. The **argJ** gene is derived from a thermophilic microorganism, preferably Bacillus stearothermophilus or Thermokoga neapolitana. The microorganism harbors a further recombinant DNA comprising a gene coding for N-acetylglutamate synthase. The recombinant DNA is plasmid DNA present at a low or moderate copy number. Preparation: The microorganism is produced by standard recombinant techniques.

USE - The microorganism is used for producing L-arginine (claimed) by fermentation.

EXAMPLE - No relevant example is given. (14 pages)

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=> dis his

     (FILE 'HOME' ENTERED AT 18:19:36 ON 25 JUN 2003)

     FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS,
     NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 18:20:20 ON 25 JUN 2003
L1           609 S ACETYLGLUTAM? (3W) (SYNTHASE OR SYNTHETASE)
L2            94 S L1 (5A) (GENE? OR DNA OR NUCLE?)
L3            29 DUP REM L2 (65 DUPLICATES REMOVED)
L4            48 S L1 (5A) COLI
L5            15 DUP REM L4 (33 DUPLICATES REMOVED)
L6            17 S ARGJ (5A) COLI
L7             9 S L6 AND ARGA
L8             2 DUP REM L7 (7 DUPLICATES REMOVED)
L9             4 DUP REM L6 (13 DUPLICATES REMOVED)

=> log h
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